INDEX TO VOL. XXI.

ACAPNIA and shock, 127.
Acids, strength related to neutrality
in organism, 173.

Agglutinins, affected by lymphagogues, 221.

ALDRICH, T. B. A preliminary contribution to the chemistry of the infundibular portion of the pituitary gland, xxiii.

Alimentary canal, neuro-muscular mechanism, xx.

Amœba, reaction to stimuli of small area, xiii.

Anæmia, effect on brain and cord, 359. Anæsthesia, effect on osmotic concentra-

tion of blood, 162.

AUER, J. See MELTZER and AUER, 400, 449, xi.

Autolysis of embryonic tissues, 69.

BLACK, O. F. See HENDERSON and BLACK, 420.

BLACKMAN, J. R. See ERLANGER, BLACK-MAN, and CULLEN, xviii.

Blood, agglutinins, 221.

, osmotic concentration during anæsthesia, 162.

Blood pressure, determination with sphygmomanometer, xxiv.

Blood vessels, heterotransplantation of, xvii. Brain and cord, resuscitation after anæmia, 359.

Braude, B., and A. J. Carlson. The influence of various lymphagogues on the relative concentration of bacterio-agglutinins in serum and lymph, 221.

Brink, F. N. See Henderson and Brink, 248.

BUNZEL, H. H. The rate of oxidation of sugars in an acid medium, 23.

CALCIUM counteracts magnesium, 400, xi.

Calcium salts affect contractility, 200.

CANNON, W. B. Some observations on the neuromuscular mechanism of the alimentary canal, xx.

Carbon dioxide regulates heart rate, 126. Carbohydrates, parenteral utilization of, xii.

Carbonic acid equilibrium, 420, 427. Cardio-inhibitory centre, reaction to increased aortic pressure, 373.

CARLSON, A. J. A note on the refractory state of the non-automatic heart muscle of Limulus, 19.

Carlson, A. J. The conductivity produced in the non-conducting myocardium of Limulus by sodium chloride in isotonic solution, 11.

CARLSON, A. J., and A. B. LUCKHARDT.

The increase in the osmotic concentration of the blood during ether and chloroform anæsthesia, 162.

Carlson, A. J., and W. J. Meek. On the mechanism of the embryonic heart rhythm in Limulus, 1.

CARLSON, A. J., and J. G. RYAN. Glucose in saliva, 301.

CARLSON, A. J. See BRAUDE and CARL-SON, 221.

CARLSON, A. J. See HUGHES and CARLson, 236.

Catalase of embryonic tissues, 85.

Cell, chemistry of, 105.

—, function of inorganic salts in, 105. Centrifugal force, effect on Paramœcium,

Cerebral arteries, pressure in, 387.

Cerebral vessels, vasomotor changes in, 454. Cilium, contractility of, xi.

467

- CLARK, W. I. See PORTER and CLARK,
- Compressibility of gelatine solutions and of muscle, 248.
- Contractility, affected by ions, 200.
- Coronary arteries, pressure in, 389.
- CULLEN, E. K. See ERLANGER, BLACK-MAN, and CULLEN, xviii.
- DELLINGER, O. P. The cilium studied comparatively as a key to the structure of contractile protoplasm, xi. Depressor nerves, relation to aortic pressor
- Sure, 394.

 DUKE, W. W. See HOWELL and DUKE,
- ECK fistula, 259.
- Egg, purine, pentose, and cholesterol content, 77.
- Embryo, chemistry of, 64, 69, 77, 85, 95, 99. Enzymes, of embryo, transform glycogen, 64.
- ERLANGER, J. A new criterion for the determination of the systolic blood pressure with the sphygmomanometer (with demonstration), xxiv.
- ERLANGER, J., J. R. BLACKMAN, and E. K. CULLEN. Further studies in the physiology of heart block in mammals. Chronic auriculo-ventricular heart block in the dog, xviii.
- EYSTER, J. A. E., and D. R. HOOKER.
 Direct and reflex response of the cardioinhibitory centre to increased blood pressure, 373.
- GARREY, W. E. Some effects of cardiac nerves upon ventricular fibrilla-
- tion, 283.
 Gelatine solutions, compressibility, 248.
- Glycogen, transformation by embryonic enzymes, 64.
- Glycolysis, 351.
- Growth, chemistry of, 64, 69, 77, 85, 95, 99. GUTHRIE, C. C. Further results on heterotransplantation of blood vessels, xvii.
- GUTHRIE, C. C. Survival of tissues and organs under perfusion, xvi.
- GUTHRIE, C. C. See PIKE, GUTHRIE, and STEWART, 359.
- HADLEY, P. B. The reaction of blinded lobsters to light, 180.
- Hæmolytic power of serum and lymph, related to lymph formation, 236.

- Hæmorrhage, effect on vasomotor reflexes, 460.
- HATCHER, R. A. See SOLLMANN and HATCHER, 37.
- HAWK, P. B. On a series of feeding and injection experiments following the establishment of the Eck fistula in dogs,
- HAWK, P. B. On the leucomains of cod liver oil, xxii.
- Heart block, xviii.
- Heart, conductivity of myocardium, 11.
- -, embryonic rhythm, 1.
- , fibrillation, affected by cardiac nerves, 283.
- , frequency related to aortic pressure, 373.
- , nerve and muscle reaction to drugs, 230.
- —, potassium output affected by vagus inhibition, 51.
- —, rate regulated by carbon dioxide, 126.
 —, refractory state, 19.
- —, relation of rate to anæmia, xvii.
- -, rhythm in Limulus, 1.
- -, rigor affected by vagus stimulation,
- HENDERSON, L. J. A note on the union of the proteins of serum with alkali, 169.
- HENDERSON, L. J. The theory of neutrality regulation in the animal organism, 427.
- HENDERSON, L. J. Concerning the relationship between the strength of acids and their capacity to preserve neutrality, 173.
- HENDERSON, L. J., and F. N. BRINK. The compressibilities of gelatine solutions and of muscle, 248.
- HENDERSON, Y. Acapnia and shock.—
 I. Carbon dioxid as a factor in the regulation of the heart rate, 126.
- HENDERSON, L. J., and O. F. BLACK. A study of the equilibrium between carbonic acid, sodium bicarbonate, mono-sodium phosphate, and disodium phosphate at body temperature, 420.
- Heterotransplantation of blood vessels xvii.
- HEYL, F. W. See OSBORNE and HEYL, 157, xxi.
- HOOKER, D. R. See EYSTER and HOOKER,
- HOWELL, W. H. and W. W. DUKE. The effect of vagus inhibition on the output of potassium from the heart, 51.

- HUGHES, W. T., and A. J. CARLSON. The relative themolytic power of serum and lymph under varying conditions of lymph formation, 236.
- HYDE, IDA H. A study of the respiratory and cardiac activities and the blood pressure in the skate after intravenous injection of salt solutions, xvii.
- ACKSON, D. E., and S. A. MATTHEWS. The sensory nerves of the heart and blood vessels as a factor in determining the action of drugs, 255.
- JOSEPH, D. R., and S. J. MELTZER. The effect of stimulation of the vagi upon the onset and development of rigor mortis of the mammalian heart, xiv.
- K IDNEY, perfusion, affected by drugs,
 - EAVENWORTH, C. S. See MENDEL and LEAVENWORTH, 69, 77, 85, 95,
- Leucomains of cod liver oil, xxii.
- Light, reactions of lobsters to, 180. LILLIE, R. S. The relation of ions to contractile processes. - II. The rôle of calcium salts in the mechanical inhibition of
- the Ctenophore swimming-plate, 200. Lipase in embryonic tissues, 95.
- Lobsters, blinded, reaction to light, 180.
- Lymph, agglutinins, 221. -, formation, related to hæmolytic power of serum and lymph, 236.
- Lymphagogues, influence on bacterio-agglutinins, 221.
- LUCKHARDT, A. B. See CARLSON and LUCKHARDT, 162.
- MAGNESIUM, inhibitory effect counteracted by calcium, 400, xi.
- MARKS, H. K. See PORTER and MARKS, 460.
- MATTHEWS, S. A. See JACKSON and MAT-THEWS, 255
- McClendon, J. F. The effects of prolonged centrifugal force on paramœcium, xiv.
- McClendon, J. F. The reaction of amœba to stimuli of small area, xiii.
- McGuigan, H. On glycolysis, 351.
 McGuigan, H. The direct utilization of the
- common sugars by the tissues, 334.
- MEEK, W. J. The relative resistance of

- the heart ganglia, the intrinsic nerve plexus, and the heart muscle to the action of drugs, 230.
- MEEK, W. J. See CARLSON and MEEK, I. MELTZER, S. J. See JOSEPH and MELTZER,
- MELTZER, S. J., and J. AUER. The antagonistic action of calcium upon the inhibitory effect of magnesium - a demonstration, xi.
- MELTZER, S. J., and J. AUER. The action of strontium compared with that of calcium and magnesium, 449.
- MELTZER, S. J., and J. AUER. The antagonistic action of calcium upon the inhibitory effect of magnesium, 400.
- MENDEL, L. B. Further observations on the parenteral utilization of carbohydrates, xii.
- MENDEL, L. B., and T. SAIRI. Chemical studies on growth. - IV. The transformation of glycogen by the enzymes of embryonic tissues, 64.
- MENDEL, L. B., and C. S. LEAVENWORTH. Chemical studies on growth. - V. The autolysis of embryonic tissues, 69.
- MENDEL, L. B., and C. S. LEAVENWORTH. Chemical studies on growth. - VI. Changes in the purine-, pentose-, and cholesterol- content of the developing egg. 77.
- MENDEL, L. B., and C. S. LEAVENWORTH. Chemical studies on growth. - VII. The catalase of animal embryonic tissues, 85.
- MENDEL, L. B., and C. S. LEAVENWORTH. Chemical studies on growth. - VIII. The occurrence of lipase in embryonic animal tissues, 95.
- MENDEL, L. B., and C. S. LEAVENWORTH. Chemical studies on growth .- IX. Notes on the composition of embryonic muscular and nervous tissues, 99.
- Metabolism, protein, xiii, xxi.
- MURLIN, J. R. Observations on the influence of carbohydrates on protein metabolism, xxi.
- Muscle, compressibility, 248.
- –, embryonic, composition of, 99.
- NERVE, embryonic, composition of.
- Neutrality regulation, 420, 427.
- Neutrality, relation to strength of acids, 173. Nitrogen, low caloric values affect me-
- tabolism, xiii. Nucleic acid, pyrimidine derivatives in, \$57.

- SBORNE, T. B., and F. W. HEYL. The pyrimidine derivatives in nucleic acid, 157.
- OSBORNE, T. B., and F. W. HEYL. The pyrimidine derivatives in triticonucleic
- OSTERBERG, E., and C. G. L. WOLF. Protein metabolism in the dog. - No 2. The influence of low caloric values of nitrogen on metabolism, xiii.
- Oxidation velocity, 23. Oxygen, resistance to lack of, 310.
- PACKARD, W. H. Further studies on resistance to lack of oxygen, 310.
- Paramœcium, affected by centrifugal force, xiv.
- PETERS, A. W. Chemical studies on the cell and its medium. - III. The function of the inorganic salts of the protozoan cell and its medium, 105.
- PIKE, F. H., C. C. GUTHRIE, and G. N. STEWART. Studies in resuscitation. -II. The reflex excitability of the brain and spinal cord after cerebral anæmia, 359.
- Pituitary gland, chemistry of, xxiii. PORTER, W. T., and W. I. CLARK. On differences between the bulbar and spinal vasomotor cells, xv.
- PORTER, W. T., and H. K. MARKS. The effect of hæmorrhage upon the vasomotor reflexes, 460.
- PORTER, W. T. and F. H. PRATT. The reactions of peripheral vasomotor areas,
- PORTER, W. T., and R. RICHARDSON. A comparative study of vasomotor reflexes,
- PRATT, F. H. See PORTER and PRATT,
- Proceedings, American Physiological Society, xi.
- Protein metabolism, xiii.
- -, influence of carbohydrates on, xxi. Protein nomenclature, recommendations of
- the Committee on, xxvii.
- Protoplasm, contractile, structure, xi. Pyrimidine derivatives in nucleic acid, 157.
- in triticonucleic acid, xxi.

- R ESPIRATION, artificial, 126.
- RICHARDSON, R. See PORTER and RICHARDSON, XV.
- RYAN, J. C. See CARLSON and RYAN, 301.
- SAIKI, T. See MENDEL and SAIKI, 64.
- Saliva, glucose in, 301.
- Serum, proteins unite with alkali, 169.
- Shock and acapnia, 126.
- SIBLER, C. Disputed points in the histology of the submaxillary gland and their physiological significance, xix.
- Skate, effect of salt solutions upon, xvii.
- SOLLMANN, T., and R. A. HATCHER. Perfusion experiments on excised kidneys. -IX. The effects of various poisons, 37.
- Sphygmomanometer, new method of measuring systolic pressure, xxiv.
- STEWART, G. N. See PIKE, GUTHRIE, and
- STEWART, 359.
- Stimulation, relation to area stimulated, xiii. Strontium, calcium, and magnesium, their relative action, 449.
- Submaxillary gland, structure, relation to function, xix.
- Sugar, utilization of, by the tissues, 334. Sugars, oxidation in an acid medium, 23.
- TRITICONUCLEIC acid, pyrimidine derivatives in, xxi.
- VAGUS inhibition, effect on potassium
- output 51. Vagus stimulation affects rigor, xiv.
- Vasomotor cells, differences between bulbar and spinal, xv.
- Vasomotor nerves of cerebral vessels, 454. Vasomotor reactions of peripheral areas to
- variations in blood pressure, xvi. Vasomotor reflexes affected by hæmorrhage, 460.
- -, comparative, xv.
- WIGGERS, C. J. Some vasomotor changes in the cerebral vessels obtained by stimulating the carotid flexuses,
- WOLF, C. G. L. See OSTERBERG and WOLF, xiii.

